



SEQUENCE LISTING

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<120> GLIAL MITOGENIC FACTORS, THEIR
PREPARATION AND USE

sub
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<130> 04585/00200R

<140> 08/734,592
<141> 1996-10-22

<150> 08/472,008
<151> 1995-06-06

<150> 08/036,555
<151> 1993-03-24

<150> 07/965,173
<151> 1992-10-23

<150> 07/940,389
<151> 1992-09-03

<150> 07/907,138
<151> 1992-06-30

<150> 07/863,703
<151> 1992-04-03

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<222> (1)...(12)
<223> Xaa in position 1 is Lysine or Arginine; Xaa in
position 12 is unknown.

<400> 2
Xaa Ala Ser Leu Ala Asp Glu Tyr Glu Tyr Met Xaa Lys
1 5 10

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<222> (1)...(10)
<223> Xaa in position 1 is Lysine or Arginine; Xaa in
position 10 is unknown

<400> 3
Xaa Thr Glu Thr Ser Ser Ser Gly Leu Xaa Leu Lys
1 5 10

<210> 4
<211> 9
<212> PRT
<213> Bos taurus

<220>
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<222> (1)...(1)
<223> Xaa in position 1 is Lysine or Arginine.

<400> 4
Xaa Lys Leu Gly Glu Met Trp Ala Glu
1 5

<210> 5
<211> 7
<212> PRT
<213> Bos taurus

<220>
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<223> Xaa in position 1 is Lysine or Arginine.

<400> 5

Xaa Leu Gly Glu Lys Arg Ala
1 5

<210> 6

<211> 16

<212> PRT

<213> Bos taurus

<220>

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<222> (1)...(1)

<223> Xaa in position 1 is Lysine or Arginine.

<400> 6

Xaa Ile Lys Ser Glu His Ala Gly Leu Ser Ile Gly Asp Thr Ala Lys
1 5 10 15

<210> 7

<211> 13

<212> PRT

<213> Bos taurus

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<222> (1)...(1)

<223> Xaa in position 1 is Lysine or Arginine.

<400> 7

Xaa Ala Ser Leu Ala Asp Glu Tyr Glu Tyr Met Arg Lys
1 5 10

<210> 8

<211> 16

<212> PRT

<213> Bos taurus

<220>

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<222> (1)...(1)

<223> Xaa in position 1 is Lysine or Arginine.

<400> 8

Xaa Ile Lys Gly Glu His Pro Gly Leu Ser Ile Gly Asp Val Ala Lys
1 5 10 15

<210> 9

<211> 13

<212> PRT

<213> Bos taurus

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<223> Xaa in position 1 is Lysine or Arginine; Xaa in position 12 is unknown.

<400> 9

Xaa Met Ser Glu Tyr Ala Phe Phe Val Gln Thr Xaa Arg

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10

<210> 10

<211> 14

<212> PRT

<213> Bos taurus

<220>

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<222> (1)...(1)

<223> Xaa in position 1 is Lysine or Arginine.

<400> 10

Xaa Ser Glu His Pro Gly Leu Ser Ile Gly Asp Thr Ala Lys

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<210> 11

<211> 10

<212> PRT

<213> Bos taurus

<220>

<221> UNSURE

<222> (1)...(8)

<223> Xaa in position 1 is Lysine or Arginine; Xaa in position 8 is unknown.

<400> 11

Xaa Ala Gly Tyr Phe Ala Glu Xaa Ala Arg

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<210> 12

<211> 9

<212> PRT

<213> Bos taurus

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<222> (1)...(7)

<223> Xaa in position 1 is Lysine or Arginine; Xaa in position 7 is unknown.

<400> 12
Xaa Lys Leu Glu Phe Leu Xaa Ala Lys
1 5

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<211> 11
<212> PRT
<213> Bos taurus

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<222> (1)...(1)
<223> Xaa in position 1 is Lysine or Arginine

<400> 13
Xaa Thr Thr Glu Met Ala Ser Glu Gln Gly Ala
1 5 10

<210> 14
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<223> Xaa in position 1 is Lysine or Arginine

<400> 14
Xaa Ala Lys Glu Ala Leu Ala Ala Leu Lys
1 5 10

<210> 15
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<213> Bos taurus

<220>
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<222> (1)...(1)
<223> Xaa in position 1 is Lysine or Arginine

<400> 15
Xaa Phe Val Leu Gln Ala Lys Lys
1 5

<210> 16
<211> 6
<212> PRT
<213> Bos taurus

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<223> Xaa in position 1 is Lysine or Arginine

<400> 16
Xaa Leu Gly Glu Met Trp
1 5

<210> 17
<211> 16
<212> PRT
<213> Bos taurus

<400> 17
Glu Tyr Lys Cys Leu Lys Phe Lys Trp Phe Lys Lys Ala Thr Val Met
1 5 10 15

<210> 18
<211> 10
<212> PRT
<213> Bos taurus

<220>
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<222> (8)...(8)
<223> Xaa in position 8 is unknown.

<400> 18
Glu Ala Lys Tyr Phe Ser Lys Xaa Asp Ala
1 5 10

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<211> 7
<212> PRT
<213> Bos taurus

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<222> (2)...(2)
<223> Xaa in position 2 is unknown.

<400> 19
Glu Xaa Lys Phe Tyr Val Pro
1 5

<210> 20
<211> 26
<212> PRT
<213> Bos taurus

<400> 20
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 1 5 10 15
 Asp Pro Met Val Ser Phe Pro Val Ala Leu
 20 25

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<220>
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 gcacccccaa taaataaata aaaggaggag ggcaaggggg gaggaggagg agtggtgctg 180
 cgaggggaag gaaaaggag gcagcgcgag aagagccggg cagactccga accgacagcc 240
 agaagcccgc acgcacctcg cacc atg aga tgg cga cgc gcc ccg cgc cgc 291
 Met Arg Trp Arg Arg Ala Pro Arg Arg
 1 5

tcc ggg cgt ccc ggc ccc cgg gcc cag cgc ccc ggc tcc gcc gcc cgc 339
 Ser Gly Arg Pro Gly Pro Arg Ala Gln Arg Pro Gly Ser Ala Ala Arg
 10 15 20 25

tcg tcg ccg ctg ccg ctg ctg cca cta ctg ctg ctg ctg ggg acc 387
 Ser Ser Pro Pro Leu Pro Leu Leu Pro Leu Leu Leu Leu Leu Gly Thr
 30 35 40

gcg gcc ctg gcg ccg ggg gcg gcg gcc ggc aac gag gcg gct ccc gcg 435
 Ala Ala Leu Ala Pro Gly Ala Ala Gly Asn Glu Ala Ala Pro Ala
 45 50 55

ggg gcc tcg gtg tgc tac tcg tcc ccg ccc agc gtg gga tcg gtg cag 483
 Gly Ala Ser Val Cys Tyr Ser Ser Pro Pro Ser Val Gly Ser Val Gln
 60 65 70

gag cta gct cag cgc gcc gcg gtg gtc atc gag gga aag gtg cac ccg 531
 Glu Leu Ala Gln Arg Ala Ala Val Val Ile Glu Gly Lys Val His Pro
 75 80 85

cag cgg ccg cag cag ggg gca ctc gac agg aag gcg gcg gcg gcg 579
 Gln Arg Arg Gln Gln Gly Ala Leu Asp Arg Lys Ala Ala Ala Ala Ala
 90 95 100 105

ggc gag gca ggg gcg tgg ggc gat cgc gag ccg cca gcc gcg ggc 627
 Gly Glu Ala Gly Ala Trp Gly Gly Asp Arg Glu Pro Pro Ala Ala Gly
 110 115 120

cca	cg	gc	ct	gg	cc	gc	g	ag	cc	ct	ct	gc	gc	aa	675			
Pro	Arg	Ala	Leu	Gly	Pro	Pro	Ala	Glu	Glu	Pro	Leu	Leu	Ala	Ala	Asn			
125					130					135								
ggg	ac	gt	cc	t	tc	tg	cc	ac	gc	cc	gg	g	ag	723				
Gly	Thr	Val	Pro	Ser	Trp	Pro	Thr	Ala	Pro	Val	Pro	Ser	Ala	Gly	Glu			
140					145					150								
cc	gg	g	ag	g	cc	t	ct	gt	a	ag	gt	c	ag	gt	tg	g	771	
Pro	Gly	Glu	Glu	Ala	Pro	Tyr	Leu	Val	Lys	Val	His	Gln	Val	Trp	Ala			
155					160					165								
gt	aa	g	cc	gg	gg	tt	g	a	ag	g	tc	ct	ac	gt	cg	ct	819	
Val	Lys	Ala	Gly	Gly	Leu	Lys	Lys	Asp	Ser	Leu	Leu	Thr	Val	Arg	Leu			
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gg	ac	t	gg	cc	c	cc	g	cc	t	cc	t	g	gg	ag	ct	aa	867	
Gly	Thr	Trp	Gly	His	Pro	Ala	Phe	Pro	Ser	Cys	Gly	Arg	Leu	Lys	Glu			
190					195					200								
g	ac	ag	ta	tc	tc	tc	at	g	ag	cc	g	cc	aa	ag	ac	ac	915	
Asp	Ser	Arg	Tyr	Ile	Phe	Phe	Met	Glu	Pro	Asp	Ala	Asn	Ser	Thr	Ser			
205					210					215								
cg	cg	cc	gg	cc	t	tc	ca	g	cc	t	cc	c	ct	gt	ag	gg	963	
Arg	Ala	Pro	Ala	Ala	Phe	Arg	Ala	Ser	Phe	Pro	Pro	Pro	Leu	Glu	Thr	Gly		
220					225					230								
cg	aa	ct	aa	ag	g	tc	ag	cg	gt	ct	tg	aa	cg	tg	cc	1011		
Arg	Asn	Leu	Lys	Lys	Glu	Val	Ser	Arg	Val	Leu	Cys	Lys	Arg	Cys	Ala			
235					240					245								
tt	cc	cc	ca	tt	aa	g	at	aa	ag	ca	g	aa	tc	gt	ca	gg	1059	
Leu	Pro	Pro	Gln	Leu	Lys	Glu	Met	Lys	Ser	Gln	Glu	Ser	Ala	Ala	Gly			
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Ser	Lys	Leu	Val	Leu	Arg	Cys	Glu	Thr	Ser	Ser	Glu	Tyr	Ser	Ser	Leu			
270					275					280								
aga	t	tc	a	g	tg	t	c	a	at	g	aa	tt	aa	tg	aa	aa	1155	
Arg	Phe	Lys	Trp	Phe	Lys	Asn	Gly	Asn	Glu	Leu	Asn	Arg	Lys	Asn	Lys			
285					290					295								
cca	ca	aa	at	ca	aa	aa	a	g	gg	a	ag	t	ca	g	aa	ct	cg	1203
Pro	Gln	Asn	Ile	Lys	Ile	Gln	Lys	Lys	Pro	Gly	Lys	Ser	Glu	Leu	Arg			
300					305					310								
att	aa	aa	g	c	t	ca	tg	g	ct	g	at	tg	aa	aa	gt	1251		
Ile	Asn	Lys	Ala	Ser	Leu	Ala	Asp	Ser	Gly	Glu	Tyr	Met	Cys	Lys	Val			

315	320	325	
atc agc aaa tta gga aat gac agt gcc tct gcc aat atc acc atc gtg Ile Ser Lys Leu Gly Asn Asp Ser Ala Ser Ala Asn Ile Thr Ile Val	330	335	1299
	340	345	
gaa tca aac gct aca tct aca tcc acc act ggg aca agc cat ctt gta Glu Ser Asn Ala Thr Ser Thr Ser Thr Gly Thr Ser His Leu Val	350	355	1347
		360	
aaa tgt gcg gag aag gag aaa act ttc tgt gtg aat gga ggg gag tgc Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn Gly Gly Glu Cys	365	370	1395
		375	
ttc atg gtg aaa gac ctt tca aac ccc tcg aga tac ttg tgc aag tgc Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr Leu Cys Lys Cys	380	385	1443
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cca aat gag ttt act ggt gat cgc tgc caa aac tac gta atg gcc agc Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Met Ala Ser	395	400	1491
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ttc tac agt acg tcc act ccc ttt ctg tct ctg cct gaa taggagcatg Phe Tyr Ser Thr Ser Pro Phe Leu Ser Leu Pro Glu	410	415	1540
		420	
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			2003

<210> 22
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 <212> PRT
 <213> Bos taurus

<220>
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 <222> (11)...(11)
 <223> Xaa in position 11 is unknown.

<400> 22
 Ala Ser Leu Ala Asp Glu Tyr Glu Tyr Met Xaa Lys
 1 5 10

<210> 23
 <211> 11

<212> PRT
<213> Bos taurus

<220>
<221> UNSURE
<222> (9)...(9)
<223> Xaa in position 9 is unknown.

<400> 23
Thr Glu Thr Ser Ser Ser Gly Leu Xaa Leu Lys
1 5 10

<210> 24
<211> 12
<212> PRT
<213> Bos taurus

<400> 24
Ala Ser Leu Ala Asp Glu Tyr Glu Tyr Met Arg Lys
1 5 10

<210> 25
<211> 9
<212> PRT
<213> Bos taurus

<220>
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<222> (7)...(7)
<223> Xaa in position 7 is unknown.

<400> 25
Ala Gly Tyr Phe Ala Glu Xaa Ala Arg
1 5

<210> 26
<211> 10
<212> PRT
<213> Bos taurus

<400> 26
Thr Thr Glu Met Ala Ser Glu Gln Gly Ala
1 5 10

<210> 27
<211> 9
<212> PRT
<213> Bos taurus

<400> 27
Ala Lys Glu Ala Leu Ala Ala Leu Lys

1

5

<210> 28
<211> 7
<212> PRT
<213> Bos taurus

<400> 28
Phe Val Leu Gln Ala Lys Lys
1 5

<210> 29
<211> 21
<212> PRT
<213> Bos taurus

<400> 29
Glu Thr Gln Pro Asp Pro Gly Gln Ile Leu Lys Lys Val Pro Met Val
1 5 10 15
Ile Gly Ala Tyr Thr
20

<210> 30
<211> 21
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> (1)...(19)
<223> Xaa in positions 1, 3, 17 and 19 is unknown.

<400> 30
Xaa Glu Xaa Lys Glu Gly Arg Gly Lys Gly Lys Gly Lys Lys Glu
1 5 10 15
Xaa Gly Xaa Gly Lys
20

<210> 31
<211> 13
<212> PRT
<213> Homo sapiens

<400> 31
Ala Glu Lys Glu Lys Thr Phe Cys Val Asn Gly Gly Glu
1 5 10

<210> 32
<211> 8
<212> PRT
<213> Bos taurus

<220>
<221> UNSURE
<222> (6)...(6)
<223> Xaa in position 6 is unknown.

<400> 32
Lys Leu Glu Phe Leu Xaa Ala Lys
1 5

<210> 33
<211> 9
<212> PRT
<213> Bos taurus

<220>
<221> UNSURE
<222> (1)...(1)
<223> Xaa in position 1 is Lysine or Arginine.

<400> 33
Xaa Val His Gln Val Trp Ala Ala Lys
1 5

<210> 34
<211> 14
<212> PRT
<213> Bos taurus

<220>
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<222> (1)...(11)
<223> Xaa in position 1 is Lysine or Arginine; Xaa in 11 is unknown.

<400> 34
Xaa Tyr Ile Phe Phe Met Glu Pro Glu Ala Xaa Ser Ser Gly
1 5 10

<210> 35
<211> 14
<212> PRT
<213> Bos taurus

<220>
<221> UNSURE
<222> (1)...(13)
<223> Xaa in 1 is Lysine or Arginine; Xaa in 13 is unknown.

<400> 35
Xaa Leu Gly Ala Trp Gly Pro Pro Ala Phe Pro Val Xaa Tyr

1

5

10

<210> 36
<211> 9
<212> PRT
<213> Bos taurus

<220>
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<222> (1)...(1)
<223> Xaa in position 1 is Lysine or Arginine.

<400> 36
Xaa Trp Phe Val Val Ile Glu Gly Lys
1 5

<210> 37
<211> 16
<212> PRT
<213> Bos taurus

<220>
<221> UNSURE
<222> (1)...(1)
<223> Xaa in position 1 is Lysine or Arginine.

<400> 37
Xaa Ala Ser Pro Val Ser Val Gly Ser Val Gln Glu Leu Val Gln Arg
1 5 10 15

<210> 38
<211> 13
<212> PRT
<213> Bos taurus

<220>
<221> UNSURE
<222> (1)...(1)
<223> Xaa in position 1 is Lysine or Arginine.

<400> 38
Xaa Val Cys Leu Leu Thr Val Ala Ala Leu Pro Pro Thr
1 5 10

<210> 39
<211> 7
<212> PRT
<213> Bos taurus

<220>
<221> UNSURE

<222> (1) ... (6)

<223> Xaa in position 1 is Lysine or Arginine; Xaa in position 6 is unknown.

<400> 39

Xaa Asp Leu Leu Leu Xaa Val

1 5

<210> 40

<211> 39

<212> PRT

<213> Bos taurus

<400> 40

Cys Thr Cys Gly Cys Cys Lys Cys Cys Arg Thr Thr Cys Ala Cys Arg
1 5 10 15

Cys Ala Gly Ala Ala Gly Gly Thr Cys Thr Thr Cys Thr Cys Cys Thr
20 25 30

Thr Cys Thr Cys Ala Gly Cys
35

<210> 41

<211> 24

<212> PRT

<213> Bos taurus

<400> 41

Cys Cys Thr Cys Gly Cys Thr Cys Cys Thr Thr Cys Thr Thr Cys Thr
1 5 10 15

Thr Gly Cys Cys Cys Thr Thr Cys
20

<210> 42

<211> 60

<212> DNA

<213> Homo sapiens

<400> 42

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<210> 43

<211> 36

<212> DNA

<213> Homo sapiens

<400> 43

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<210> 44

<211> 569

<212> DNA

<213> Homo sapiens

<400> 44

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aatgggcctc	accatcctaa	cccacccccc	gagaatgtcc	agctggtgaa	tcaatacgtat	240
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accagtca	atacttccac	agcccatcac	tccactactg	tcacccagac	tcctagccac	360
agctggagca	acggacacac	tgaaagcatc	cttccgaaa	gccactctgt	aatcgtgatg	420
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tcctaccgag	acttcctca	tagtgaag				569

<210> 45

<211> 8

<212> PRT

<213> Bos taurus

<400> 45

Val His Gln Val Trp Ala Ala Lys
1 5

<210> 46

<211> 13

<212> PRT

<213> Bos taurus

<220>

<221> UNSURE

<222> (10)...(10)

<223> Xaa in position 10 is unknown.

<400> 46

Tyr Ile Phe Phe Met Glu Pro Glu Ala Xaa Ser Ser Gly
1 5 10

<210> 47

<211> 13

<212> PRT

<213> Bos taurus

<220>

<221> UNSURE

<222> (12)...(12)

<223> Xaa in position 12 is unknown.

<400> 47

Leu Gly Ala Trp Gly Pro Pro Ala Phe Pro Val Xaa Tyr
1 5 10

<210> 48
<211> 8
<212> PRT
<213> Bos taurus

<400> 48
Trp Phe Val Val Ile Glu Gly Lys
1 5

<210> 49
<211> 15
<212> PRT
<213> Bos taurus

<400> 49
Ala Ser Pro Val Ser Val Gly Ser Val Gln Glu Leu Val Gln Arg
1 5 10 15

<210> 50
<211> 12
<212> PRT
<213> Bos taurus

<400> 50
Val Cys Leu Leu Thr Val Ala Ala Leu Pro Pro Thr
1 5 10

<210> 51
<211> 9
<212> PRT
<213> Bos taurus`

<400> 51
Lys Val His Gln Val Trp Ala Ala Lys
1 5

<210> 52
<211> 13
<212> PRT
<213> Bos taurus

<220>
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<222> (12)...(12)
<223> Xaa in position 12 is unknown.

<400> 52
Lys Ala Ser Leu Ala Asp Ser Gly Glu Tyr Met Xaa Lys
1 5 10

<210> 53

<211> 6
<212> PRT
<213> Bos taurus

<220>
<221> UNSURE
<222> (5)...(5)
<223> Xaa in position 5 is unknown.

<400> 53
Asp Leu Leu Leu Xaa Val
1 5

<210> 54
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<213> Artificial Sequence

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<223> Degenerate probe/primer derived from Bos taurus or
Homo sapiens

<400> 54
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<210> 55
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
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Homo sapiens

<400> 55
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<210> 56
<211> 20
<212> DNA
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<220>
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Homo sapiens

<400> 56
tgytcngang ccatytcngt 20

<210> 57
<211> 20

<212> DNA
<213> Artificial Sequence

<220>
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Homo sapiens

<400> 57
tgytcrcctng ccatytcngt 20

<210> 58
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Degenerate probe/primer derived from Bos taurus or
Homo sapiens

<400> 58
ccdatnacca tnggnacytt 20

<210> 59
<211> 20
<212> DNA
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Homo sapiens

<400> 59
gcngccanca cytgrtgnac 20

<210> 60
<211> 20
<212> DNA
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<220>
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Homo sapiens

<400> 60
gcytcnggyt ccatraaraa 20

<210> 61
<211> 20
<212> DNA
<213> Artificial Sequence

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Homo sapiens

<400> 61
ccytcdatna cnacraacca 20

<210> 62
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
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Homo sapiens

<400> 62
tcngcraart anccngc 17

<210> 63
<211> 20
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Homo sapiens

<400> 63
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Homo sapiens

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<400> 67
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<210> 76
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accaaggctg cgggagaaga agtttgcacca tcaccctcg cagttcagct cttccacca 240
caaccccgcg catgacagta acagccccc tgctagcccc ttgaggatag tggaggatga 300
ggagtatgaa acgacccaag agtacgagcc agcccaagag cctgttaaga aactcgccaa 360
tagccggcg gccaaaagaa ccaagccaa tggccacatt gctaacagat tggaaagtgg 420
cagcaacaca agtcccgaga gcagtaactc agagagtgaa acagaagatg aaagagttagg 480
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tgccttcgc ctggctgaca gcaggactaa cccagcaggc cgcttctcgac cacaggaaga 600
aatccaggcc aggctgtcta gtgttaattgc taaccaagac cttattgctg tataaaacct 660
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Homo sapiens			
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unknown.			
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Asn Tyr Arg Asp Cys Ile Phe Met Ile Ile Ile Val Leu Xaa Asn			
1 5 10 15			
 ata ctt aaa ccg ctt tgg tcc nnn tct tgt agg aag tca gaa ctt cgc			98

Ile	Leu	Lys	Pro	Leu	Trp	Ser	Xaa	Ser	Cys	Arg	Lys	Ser	Glu	Leu	Arg	
20															30	
att agc aaa gcg tca ctg gct gat tct gga gaa tat atg tgc aaa gtg															146	
Ile	Ser	Lys	Ala	Ser	Leu	Ala	Asp	Ser	Gly	Glu	Tyr	Met	Cys	Lys	Val	
35															45	
atc agc aaa cta gga aat gac agt gcc tct gcc aac atc acc att gtg															194	
Ile	Ser	Lys	Leu	Gly	Asn	Asp	Ser	Ala	Ser	Ala	Asn	Ile	Thr	Ile	Val	
50															60	
gag tca aac ggt aag aga tgc cta ctg cgt gct att tct cag tct cta															242	
Glu	Ser	Asn	Gly	Lys	Arg	Cys	Leu	Leu	Arg	Ala	Ile	Ser	Gln	Ser	Leu	
65															75	
aga gga gtg atc aag gta tgt ggt cac act nnn atc acg cag gtg tct															290	
Arg	Gly	Val	Ile	Lys	Val	Cys	Gly	His	Thr	Xaa	Ile	Thr	Gln	Val	Ser	
80															95	
gaa atc tca ttg nnn aca aat aaa aat cat gaa agg aaa act cta tgt															338	
Glu	Ile	Ser	Leu	Xaa	Thr	Asn	Lys	Asn	His	Glu	Arg	Lys	Thr	Leu	Cys	
100															110	
ttg aaa tat ctt atg ggt cct cct gta aag ctc ttc act cca nnn ggt															386	
Leu	Lys	Tyr	Leu	Met	Gly	Pro	Pro	Val	Lys	Leu	Phe	Thr	Pro	Xaa	Gly	
115															125	
gaa ata gac ctg aaa tat ata nnn att att t															417	
Glu	Ile	Asp	Leu	Lys	Tyr	Ile	Xaa	Ile	Ile							
130															135	
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<210> 91
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33

37

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34

33

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<221> modified_base
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<210> 120
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<212> PRT
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<400> 120
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1 5 10

<210> 121
<211> 16
<212> PRT
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<400> 121
Gly Gly Leu Lys Lys Asp Ser Leu Leu Thr Val Arg Leu Gly Ala Asn
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<210> 122
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<210> 123
<211> 23
<212> PRT
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<400> 123
Leu Leu Thr Val Arg Leu Gly Ala Trp Gly His Pro Ala Phe Pro Ser
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Cys Gly Arg Leu Lys Glu Asp
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<210> 124
<211> 13
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<220>
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<210> 125
<211> 23
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<400> 125
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Ser Gly Gly Pro Gly Arg Leu
20

<210> 126

<211> 14
<212> PRT
<213> Bos taurus

<400> 126
Val Ala Gly Ser Lys Leu Val Leu Arg Cys Glu Thr Ser Ser
1 5 10

<210> 127
<211> 16
<212> PRT
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Glu Tyr Lys Cys Leu Lys Phe Lys Trp Phe Lys Ala Thr Val Met
1 5 10 15

<210> 128
<211> 26
<212> PRT
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<210> 130
<211> 23
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Cys Lys Val Ile Ser Lys Leu

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 <212> PRT
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 1 5 10

<210> 132
 <211> 22
 <212> PRT
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<400> 132
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 Lys Val Ile Ser Lys Leu
 20

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 His Gln Val Trp Ala Ala Lys Ala Gly Gly Leu Lys Lys Asp
 1 5 10

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 Ser Leu Leu Thr Val Arg Leu Gly Ala Trp Gly His Pro Ala Phe Pro
 15 20 25 30

tcc tgc ggg cgc ctc aag gag gac agc agg tac atc ttc ttc atg gag 145
 Ser Cys Gly Arg Leu Lys Glu Asp Ser Arg Tyr Ile Phe Phe Met Glu
 35 40 45

ccc gag gcc aac agc agc ggc ggg ccc ggc cgc ctt ccg agc ctc ctt 193
 Pro Glu Ala Asn Ser Ser Gly Gly Pro Gly Arg Leu Pro Ser Leu Leu
 50 55 60

ccc ccc tct cga gac ggg ccg gaa cct caa gaa gga ggt cag ccg ggt 241
 Pro Pro Ser Arg Asp Gly Pro Glu Pro Gln Glu Gly Gly Gln Pro Gly
 65 70 75

gct gtg caa cgg tgc gcc ttg cct ccc cgc ttg aaa gag atg aag agt Ala Val Gln Arg Cys Ala Leu Pro Pro Arg Leu Lys Glu Met Lys Ser	289	
80 85 90		
cag gag tct gtg gca ggt tcc aaa cta gtg ctt cgg tgc gag acc agt Gln Glu Ser Val Ala Gly Ser Lys Leu Val Leu Arg Cys Glu Thr Ser	337	
95 100 105 110		
tct gaa tac tcc tct ctc aag ttc aag tgg ttc aag aat ggg agt gaa Ser Glu Tyr Ser Ser Leu Lys Phe Lys Trp Phe Lys Asn Gly Ser Glu	385	
115 120 125		
tta agc cga aag aac aaa cca gaa aac atc aag ata cag aaa agg ccg Leu Ser Arg Lys Asn Lys Pro Glu Asn Ile Lys Ile Gln Lys Arg Pro	433	
130 135 140		
ggg aag tca gaa ctt cgc att agc aaa gcg tca ctg gct gat tct gga Gly Lys Ser Glu Leu Arg Ile Ser Lys Ala Ser Leu Ala Asp Ser Gly	481	
145 150 155		
gaa tat atg tgc aaa gtg atc agc aaa cta gga aat gac agt gcc tct Glu Tyr Met Cys Lys Val Ile Ser Lys Leu Gly Asn Asp Ser Ala Ser	529	
160 165 170		
gcc aac atc acc att gtg gag tca aac ggt aag aga tgc cta ctg cgt Ala Asn Ile Thr Ile Val Glu Ser Asn Gly Lys Arg Cys Leu Leu Arg	577	
175 180 185 190		
gct att tct cag tct cta aga gga gtg atc aag gta tgt ggt cac act Ala Ile Ser Gln Ser Leu Arg Gly Val Ile Lys Val Cys Gly His Thr	625	
195 200 205		
tgaatcacgc aggtgtgtga aatctcattg tcaacaaata aaaatcatga aaggaaaaaa aaaaaaaaaa aatcgatgtc gactcgagat gtggctgcag gtcgactcta gaggatccc	685	
	744	
<210> 134		
<211> 1193		
<212> DNA		
<213> Bos taurus		
<220>		
<221> CDS		
<222> (8)...(796)		
<400> 134		
cctgcag cat caa gtg tgg gcg gcg aaa gcc ggg ggc ttg aag aag gac His Gln Val Trp Ala Ala Lys Ala Gly Gly Leu Lys Lys Asp	49	
1 5 10		
tcg ctg ctc acc gtg cgc ctg ggc gcc tgg ggc cac ccc gcc ttc ccc	97	

Ser	Leu	Leu	Thr	Val	Arg	Leu	Gly	Ala	Trp	Gly	His	Pro	Ala	Phe	Pro	
15				20				25				30				
tcc	tgc	ggg	cgc	ctc	aag	gag	gac	agg	tac	atc	ttc	ttc	atg	gag		145
Ser	Cys	Gly	Arg	Leu	Lys	Glu	Asp	Ser	Arg	Tyr	Ile	Phe	Phe	Met	Glu	
															45	
35								40								
ccc	gag	gcc	aac	agc	agc	ggc	ggg	ccc	ggc	cgc	ctt	ccg	agc	ctc	ctt	193
Pro	Glu	Ala	Asn	Ser	Ser	Gly	Gly	Pro	Gly	Arg	Leu	Pro	Ser	Leu	Leu	
								55						60		
50																
ccc	ccc	tct	cga	gac	ggg	ccg	gaa	cct	caa	gaa	gga	ggt	cag	ccg	ggt	241
Pro	Pro	Ser	Arg	Asp	Gly	Pro	Glu	Pro	Gly	Pro	Gly	Gly	Gly	Gly	Gly	
								65					75			
65																
gct	gtg	caa	cgg	tgc	gcc	ttg	cct	ccc	cgc	ttg	aaa	gag	atg	aag	agt	289
Ala	Val	Gln	Arg	Cys	Ala	Leu	Pro	Pro	Arg	Leu	Lys	Glu	Met	Lys	Ser	
								80					90			
80																
cag	gag	tct	gtg	gca	ggt	tcc	aaa	cta	gtg	ctt	cg	tgc	gag	acc	agt	337
Gln	Glu	Ser	Val	Ala	Gly	Ser	Lys	Leu	Val	Leu	Arg	Cys	Glu	Thr	Ser	
								95					105		110	
95																
tct	gaa	tac	tcc	tct	ctc	aag	ttc	aag	tgg	ttc	aag	aat	ggg	agt	gaa	385
Ser	Glu	Tyr	Ser	Ser	Leu	Lys	Phe	Lys	Trp	Phe	Lys	Asn	Gly	Ser	Glu	
								115					120		125	
115																
tta	agc	cga	aag	aac	aaa	cca	gaa	aac	atc	aag	ata	cag	aaa	agg	ccg	433
Leu	Ser	Arg	Lys	Asn	Lys	Pro	Glu	Asn	Ile	Lys	Ile	Gln	Lys	Arg	Pro	
								130					135		140	
130																
ggg	aag	tca	gga	ctt	cgc	att	agc	aaa	gcg	tca	ctg	gct	gat	tct	gga	481
Gly	Lys	Ser	Gly	Leu	Arg	Ile	Ser	Lys	Ala	Ser	Leu	Ala	Asp	Ser	Gly	
								145					150		155	
145																
gaa	tat	atg	tgc	aaa	gtg	atc	agc	aaa	cta	gga	aat	gac	agt	gcc	tct	529
Glu	Tyr	Met	Cys	Lys	Val	Ile	Ser	Lys	Leu	Gly	Asn	Asp	Ser	Ala	Ser	
								160					165		170	
160																
gcc	aac	atc	acc	att	gtg	gag	tca	aac	gcc	aca	tcc	aca	tct	aca	gct	577
Ala	Asn	Ile	Thr	Ile	Val	Glu	Ser	Asn	Ala	Thr	Ser	Thr	Ser	Thr	Ala	
								175					180		185	
175																
ggg	aca	agc	cat	ctt	gtc	aag	tgt	gca	gag	aag	gag	aaa	act	ttc	tgt	625
Gly	Thr	Ser	His	Leu	Val	Lys	Cys	Ala	Glu	Lys	Glu	Lys	Thr	Phe	Cys	
								195					200		205	
195																
gtg	aat	gga	ggc	gag	tgc	ttc	atg	gtg	aaa	gac	ctt	tca	aat	ccc	tca	673
Val	Asn	Gly	Gly	Glu	Cys	Phe	Met	Val	Lys	Asp	Leu	Ser	Asn	Pro	Ser	
								210					215		220	
210																

aga tac ttg tgc aag tgc caa cct gga ttc act gga gcg aga tgt act	721
Arg Tyr Leu Cys Lys Cys Gln Pro Gly Phe Thr Gly Ala Arg Cys Thr	
225 230 235	
gag aat gtg ccc atg aaa gtc caa acc caa gaa agt gcc caa atg agt	769
Glu Asn Val Pro Met Lys Val Gln Thr Gln Glu Ser Ala Gln Met Ser	
240 245 250	
tta ctg gtg atc gct gcc aaa act acg taatggccag cttctacagt	816
Leu Leu Val Ile Ala Ala Lys Thr Thr	
255 260	
acgtccactc ccttctgtc tctgcctgaa tagcgcatct cagtcggcgc cgcttcttg	876
ttgccgcata tccttcaga ttccctcttag agcttagatgc gttttaccag gtctaaacatt	936
gactgcctct gcctgtcgca tgagaacatt aacacaagcg attgtatgac ttccctctgtc	996
cgtgactagt gggctcttag ctactcgtag gtgcgttaagg ctccagtgtt tctgaaattg	1056
atcttgaatt actgtgatac gacatgatag tccctctcac ccagtgcata gacaataaaag	1116
gccttgaaaa gtcaaaaaaaa aaaaaaaaaa aaaaaatcga tgcgtactcg agatgtggct	1176
gcaggtcgac tctagag	1193
<210> 135	
<211> 1108	
<212> DNA	
<213> Bos taurus	
<220>	
<221> CDS	
<222> (8)...(778)	
<400> 135	
cctgcag cat caa gtg tgg gcg gcg aaa gcc ggg ggc ttg aag aag gac	49
His Gln Val Trp Ala Ala Lys Ala Gly Gly Leu Lys Lys Asp	
1 5 10	
tcg ctg ctc acc gtg cgc ctg ggc gcc tgg ggc cac ccc gcc ttc ccc	97
Ser Leu Leu Thr Val Arg Leu Gly Ala Trp Gly His Pro Ala Phe Pro	
15 20 25 30	
tcc tgc ggg cgc ctc aag gag gac agc agg tac atc ttc ttc atg gag	145
Ser Cys Gly Arg Leu Lys Glu Asp Ser Arg Tyr Ile Phe Phe Met Glu	
35 40 45	
ccc gag gcc aac agc agc ggc ggg ccc ggc cgc ctt ccg agc ctc ctt	193
Pro Glu Ala Asn Ser Ser Gly Gly Pro Gly Arg Leu Pro Ser Leu Leu	
50 55 60	
ccc ccc tct cga gac ggg ccg gaa cct caa gaa gga ggt cag ccg ggt	241
Pro Pro Ser Arg Asp Gly Pro Glu Pro Gln Glu Gly Gly Gln Pro Gly	
65 70 75	
gct gtg caa cgg tgc gcc ttg cct ccc cgc ttg aaa gag atg aag agt	289

Ala Val Gln Arg Cys Ala Leu Pro Pro Arg Leu Lys Glu Met Lys Ser			
80	85	90	
cag gag tct gtg gca ggt tcc aaa cta gtg ctt cggtgc gag acc agt			337
Gln Glu Ser Val Ala Gly Ser Lys Leu Val Leu Arg Cys Glu Thr Ser			
95	100	105	110
tct gaa tac tcc tct ctc aag ttc aag tgg ttc aag aat ggg agt gaa			385
Ser Glu Tyr Ser Ser Leu Lys Phe Lys Trp Phe Lys Asn Gly Ser Glu			
115	120	125	
tta agc cga aag aac aaa cca gaa aac atc aag ata cag aaa agg ccg			433
Leu Ser Arg Lys Asn Lys Pro Glu Asn Ile Lys Ile Gln Lys Arg Pro			
130	135	140	
ggg aag tca gaa ctt cgc att agc aaa gcg tca ctg gct gat tct gga			481
Gly Lys Ser Glu Leu Arg Ile Ser Lys Ala Ser Leu Ala Asp Ser Gly			
145	150	155	
gaa tat atg tgc aaa gtg atc agc aaa cta gga aat gac agt gcc tct			529
Glu Tyr Met Cys Lys Val Ile Ser Lys Leu Gly Asn Asp Ser Ala Ser			
160	165	170	
gcc aac atc acc att gtg gag tca aac gcc aca tcc aca tct aca gct			577
Ala Asn Ile Thr Ile Val Glu Ser Asn Ala Thr Ser Thr Ser Thr Ala			
175	180	185	190
ggg aca agc cat ctt gtc aag tgt gca gag aag gag aaa act ttc tgt			625
Gly Thr Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys			
195	200	205	
gtg aat gga ggc gag tgc ttc atg gtg aaa gac ctt tca aat ccc tca			673
Val Asn Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser			
210	215	220	
aga tac ttg tgc aag tgc cca aat gag ttt act ggt gat cgc tgc caa			721
Arg Tyr Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln			
225	230	235	
aac tac gta atg gcc agc ttc tac agt acg tcc act ccc ttt ctg tct			769
Asn Tyr Val Met Ala Ser Phe Tyr Ser Thr Ser Thr Pro Phe Leu Ser			
240	245	250	
ctg cct gaa tagcgcatct cagtcggtagc cgctttcttg ttgccccatc			818
Leu Pro Glu			
255			
tccccctcaga ttccgcctag agctagatgc gttttaccag gtctaacatt gactgcctct			878
gcctgtcgca tgagaacatt aacacaagcg attgtatgac ttccctctgtc cgtgactagt			938
gggctctgag ctactcgtag gtgcgttaagg ctccagtggtt tctgaaattg atcttgaatt			998
actgtgatac gacatgatag tccctctcac ccagtgcata gacaataaag gccttgaaaa			1058

gtcaaaaaaa aaaaaaaaaa aaaaatcgat gtcgactcga gatgtggctg

1108

<210> 136
<211> 559
<212> DNA
<213> Bos taurus

<220>
<221> CDS
<222> (460)...(561)

<223> N in position 214 is unknown.

<221> variation
<222> (560)...(560)
<223> N in position 560 varies.

<221> variation
<222> (561)...(561)
<223> N in position 561 varies.

<221> variation
<222> (34)...(34)
<223> Xaa in position 34 is Ala.

<400> 136

agtttccccc cccaacttgt	cggaactctg	ggctcgcg	caggcagga	gcggagcggc	60
ggcggctgcc	caggcgatgc	gagcgcgggc	cggacggtaa	tgcgcctctcc	120
tgcgagcgcg	ccggaccgag	gcagcgcacag	gagcggaccg	cggcgggaac	180
ccagcggcgc	gccagcagga	gccacccgc	gagnctgctg	cgaggactcc	240
agtcccaggt	ggcccgacc	gcacgttgcg	tcccccgcgt	cccccgcggc	300
gctccccc	acgcccgcgc	cgcctcgcc	cggctgctgg	gacaggagac	360
aaactttcc	cgaagccgat	cccagccctc	ggacccaaac	ttgtcgcg	420
cgggagccgt	ccgcgcagag	cgtcacttc	tcggcagag	tgccttcgc	474
				Met Ser Glu Arg Arg	
			1	5	

gaa ggc aaa ggc aag ggg aag ggc ggc aag aag gac cga ggc tcc ggg	522
Glu Gly Lys Gly Lys Gly Lys Gly Lys Lys Asp Arg Gly Ser Gly	
10 15 20	

aag aag ccc gtg ccc gcg gct ggc ggc ccg agc cca gnn	561
Lys Lys Pro Val Pro Ala Ala Gly Gly Pro Ser Pro Xaa	
25 30	

<210> 137
<211> 252
<212> DNA
<213> Bos taurus

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<220>
<221> CDS
<222> (3)...(251)

<221> variation
<222> (8)...(8)
<223> N in position 8 varies.

<221> variation
<222> (2)...(2)
<223> Xaa in position 2 is Gln.

<400> 137
cc cat can gtg tgg gcg gcg aaa gcc ggg ggc ttg aag aag gac tcg      47
  His Xaa Val Trp Ala Ala Lys Ala Gly Gly Leu Lys Lys Asp Ser
    1           5           10           15

ctg ctc acc gtg cgc ctg ggc gcc tgg ggc cac ccc gcc ttc ccc tcc      95
  Leu Leu Thr Val Arg Leu Gly Ala Trp Gly His Pro Ala Phe Pro Ser
    20          25          30

tgc ggg cgc ctc aag gag gac agc agg tac atc ttc ttc atg gag ccc      143
  Cys Gly Arg Leu Lys Glu Asp Ser Arg Tyr Ile Phe Phe Met Glu Pro
    35          40          45

gag gcc aac agc agc ggc ggg ccc ggc cgc ctt ccg agc ctc ctt ccc      191
  Glu Ala Asn Ser Ser Gly Gly Pro Gly Arg Leu Pro Ser Leu Leu Pro
    50          55          60

ccc tct cga gac ggg ccg gaa cct caa gaa gga ggt cag ccg ggt gct      239
  Pro Ser Arg Asp Gly Pro Glu Pro Gln Glu Gly Gln Pro Gly Ala
    65          70          75

gtg caa cgg tgc g
  Val Gln Arg Cys
    80

<210> 138
<211> 178
<212> DNA
<213> Bos taurus

<220>
<221> CDS
<222> (3)...(179)

<221> variation
<222> (179)...(179)
<223> N in position 179 varies.

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<221> variation
<222> (59)...(59)
<223> Xaa in position 59 is Gly.

<400> 138

cc ttg cct ccc cgc ttg aaa gag atg aag agt cag gag tct gtg gca 47
Leu Pro Pro Arg Leu Lys Glu Met Lys Ser Gln Glu Ser Val Ala
1 5 10 15

ggt tcc aaa cta gtg ctt cggtc gag acc agt tct gaa tac tcc tct 95
Gly Ser Lys Leu Val Leu Arg Cys Glu Thr Ser Ser Glu Tyr Ser Ser
20 25 30

ctc aag ttc aag tgg ttc aag aat ggg agt gaa tta agc cga aag aac 143
Leu Lys Phe Lys Trp Phe Lys Asn Gly Ser Glu Leu Ser Arg Lys Asn
35 40 45

aaa cca caa aac atc aag ata cag aaa agg ccg ggn 179
Lys Pro Gln Asn Ile Lys Ile Gln Lys Arg Pro Xaa
50 55

<210> 139
<211> 122
<212> DNA
<213> Bos taurus

<220>
<221> CDS
<222> (2)...(124)

<221> variation
<222> (123)...(124)
<223> N in positions 123 and 124 varies.

<221> variation
<222> (41)...(41)
<223> Xaa in position 41 is Ala.

<400> 139

g aag tca gaa ctt cgc att agc aaa gcg tca ctg gct gat tct gga gaa 49
Lys Ser Glu Leu Arg Ile Ser Lys Ala Ser Leu Ala Asp Ser Gly Glu
1 5 10 15

tat atg tgc aaa gtg atc agc aaa cta gga aat gac agt gcc tct gcc 97
Tyr Met Cys Lys Val Ile Ser Lys Leu Gly Asn Asp Ser Ala Ser Ala
20 25 30

aac atc acc att gtg gag tca aac gnn 124
Asn Ile Thr Ile Val Glu Ser Asn Xaa
35 40

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<210> 140
<211> 417
<212> DNA
<213> Bos taurus

<220>
<221> CDS
<222> (84) ... (272)

<400> 140
tctaaaacta cagagactgt attttcatga tcacatcatgt tctgtgaaat atacttaaac      60
cgctttggtc ctgatcttgtt agg aag tca gaa ctt cgc att agc aaa gcg tca      113
          Lys Ser Glu Leu Arg Ile Ser Lys Ala Ser
          1           5           10

ctg gct gat tct gga gaa tat atg tgc aaa gtg atc agc aaa cta gga      161
Leu Ala Asp Ser Gly Glu Tyr Met Cys Lys Val Ile Ser Lys Leu Gly
          15          20          25

aat gac agt gcc tct gcc aac atc acc att gtg gag tca aac ggt aag      209
Asn Asp Ser Ala Ser Ala Asn Ile Thr Ile Val Glu Ser Asn Gly Lys
          30          35          40

aga tgc cta ctg cgt gct att tct cag tct cta aga gga gtg atc aag      257
Arg Cys Leu Leu Arg Ala Ile Ser Gln Ser Leu Arg Gly Val Ile Lys
          45          50          55

gta tgt ggt cac act tgaatcacgc aggtgtgtga aatctcatgg tgaacaaata      312
Val Cys Gly His Thr
          60

aaaatcatga aaggaaaaact ctatgttga aatatcttat gggtcctcct gtaaagctct      372
tcactccata aggtgaaata gacctgaaat atatatagat tattt      417

<210> 141
<211> 102
<212> DNA
<213> Bos taurus

<220>
<221> CDS
<222> (1) ... (102)

<221> variation
<222> (1) ... (1)
<223> N in position 1 varies.

<221> variation
<222> (1) ... (1)

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<223> Xaa in position 1 is Glu.

<400> 141
nag atc acc act ggc atg cca gcc tca act gag aca gcg tat gtg tct . 48
Xaa Ile Thr Thr Gly Met Pro Ala Ser Thr Glu Thr Ala Tyr Val Ser
1 5 10 15

tca gag tct ccc att aga ata tca gta tca aca gaa gga aca aat act 96
Ser Glu Ser Pro Ile Arg Ile Ser Val Ser Thr Glu Gly Thr Asn Thr
20 25 30

tct tca t 103
Ser Ser

<210> 142
<211> 69
<212> DNA
<213> Bos taurus

<220>
<221> CDS
<222> (1)...(69)

<400> 142
aag tgc caa cct gga ttc act gga gcg aga tgt act gag aat gtg ccc . 48
Lys Cys Gln Pro Gly Phe Thr Gly Ala Arg Cys Thr Glu Asn Val Pro
1 5 10 15

atg aaa gtc caa acc caa gaa 69
Met Lys Val Gln Thr Gln Glu
20

<210> 143
<211> 60
<212> DNA
<213> Bos taurus

<220>
<221> CDS
<222> (1)...(60)

<400> 143
aag tgc cca aat gag ttt act ggt gat cgc tgc caa aac tac gta atg . 48
Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Met
1 5 10 15

gcc agc ttc tac 60
Ala Ser Phe Tyr

<210> 144
 <211> 36
 <212> DNA
 <213> Bos taurus

<220>
 <221> CDS
 <222> (1) ... (33)

<400> 144
 agt acg tcc act ccc ttt ctg tct ctg cct gaa tag
 Ser Thr Ser Thr Pro Phe Leu Ser Leu Pro Glu
 1 5 10

36

<210> 145
 <211> 27
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1) ... (27)
 <223>

<400> 145
 aag cat ctt ggg att gaa ttt atg gag
 Lys His Leu Gly Ile Glu Phe Met Glu
 1 5

27

<210> 146
 <211> 569
 <212> DNA
 <213> Bos taurus

<220>
 <221> CDS
 <222> (1) ... (565)

<400> 146
 aaa gcg gag gag ctc tac cag aag aga gtg ctc acc att acc ggc att
 Lys Ala Glu Glu Leu Tyr Gln Lys Arg Val Leu Thr Ile Thr Gly Ile
 1 5 10 15

48

tgc atc gcg ctg ctc gtg gtt ggc atc atg tgt gtg gtg gtc tac tgc
 Cys Ile Ala Leu Leu Val Val Gly Ile Met Cys Val Val Val Tyr Cys

96

20	25	30	
aaa acc aag aaa caa cgg aaa aag ctt cat gac cgg ctt cgg cag agc Lys Thr Lys Lys Gln Arg Lys Lys Leu His Asp Arg Leu Arg Gln Ser	35	40	144
ctt cgg tct gaa aga aac acc atg atg aac gta gcc aac ggg ccc cac Leu Arg Ser Glu Arg Asn Thr Met Met Asn Val Ala Asn Gly Pro His	50	55	192
cac ccc aat ccg ccc ccc gag aac gtg cag ctg gtg aat caa tac gta His Pro Asn Pro Pro Glu Asn Val Gln Leu Val Asn Gln Tyr Val	65	70	240
tct aaa aat gtc atc tct agc gag cat att gtt gag aga gag gcg gag Ser Lys Asn Val Ile Ser Ser Glu His Ile Val Glu Arg Glu Ala Glu	85	90	288
agc tct ttt tcc acc agt cac tac act tcg aca gct cat cat tcc act Ser Ser Phe Ser Thr Ser His Tyr Thr Ser Thr Ala His His Ser Thr	100	105	336
act gtc act cag act ccc agt cac agc tgg agc aat gga cac act gaa Thr Val Thr Gln Thr Pro Ser His Ser Trp Ser Asn Gly His Thr Glu	115	120	384
agc atc att tcg gaa agc cac tct gtc atc gtg atg tca tcc gta gaa Ser Ile Ile Ser Glu Ser His Ser Val Ile Val Met Ser Ser Val Glu	130	135	432
aac agt agg cac agc agc ccg act ggg ggc ccg aga gga cgt ctc aat Asn Ser Arg His Ser Ser Pro Thr Gly Gly Pro Arg Gly Arg Leu Asn	145	150	480
ggc ttg gga ggc cct cgt gaa tgt aac agc ttc ctc agg cat gcc aga Gly Leu Gly Pro Arg Glu Cys Asn Ser Phe Leu Arg His Ala Arg	165	170	528
gaa acc cct gac tcc tac cga gac tct cct cat agt g aaag Glu Thr Pro Asp Ser Tyr Arg Asp Ser Pro His Ser	180	185	569

<210> 147
 <211> 730
 <212> DNA
 <213> Bos taurus

<220>
 <221> CDS
 <222> (2)...(652)

<400> 147

g tat gta tca gca atg acc acc ccg gct cgt atg tca cct gta gat ttc	49
Tyr Val Ser Ala Met Thr Thr Pro Ala Arg Met Ser Pro Val Asp Phe	
1 5 10 15	
cac acg cca agc tcc ccc aag tca ccc cct tcg gaa atg tcc ccg ccc	97
His Thr Pro Ser Ser Pro Lys Ser Pro Pro Ser Glu Met Ser Pro Pro	
20 25 30	
gtg tcc agc acg acg gtc tcc atg ccc tcc atg gcg gtc agt ccc ttc	145
Val Ser Ser Thr Val Ser Met Pro Ser Met Ala Val Ser Pro Phe	
35 40 45	
gtg gaa gag gag aga ccc ctg ctc ctt gtg acg cca cca cggt ctg cggt	193
Val Glu Glu Glu Arg Pro Leu Leu Val Thr Pro Pro Arg Leu Arg	
50 55 60	
gag aag tat gac cac cac gcc cag caa ttc aac tcg ttc cac tgc aac	241
Glu Lys Tyr Asp His His Ala Gln Gln Phe Asn Ser Phe His Cys Asn	
65 70 75 80	
ccc gcg cat gag agc aac agc ctg ccc ccc agc ccc ttg agg ata gtg	289
Pro Ala His Glu Ser Asn Ser Leu Pro Pro Ser Pro Leu Arg Ile Val	
85 90 95	
gag gat gag gaa tat gaa acg acc cag gag tac gaa cca gct caa gag	337
Glu Asp Glu Glu Tyr Glu Thr Thr Gln Glu Tyr Glu Pro Ala Gln Glu	
100 105 110	
ccg gtt aag aaa ctc acc aac agc agc cgg cgg gcc aaa aga acc aag	385
Pro Val Lys Lys Leu Thr Asn Ser Ser Arg Arg Ala Lys Arg Thr Lys	
115 120 125	
ccc aat ggt cac att gcc cac agg ttg gaa atg gac aac aac aca ggc	433
Pro Asn Gly His Ile Ala His Arg Leu Glu Met Asp Asn Asn Thr Gly	
130 135 140	
gct gac agc agt aac tca gag agc gaa aca gag gat gaa aga gta gga	481
Ala Asp Ser Ser Asn Ser Glu Ser Glu Thr Glu Asp Glu Arg Val Gly	
145 150 155 160	
gaa gat acg cct ttc ctg gcc ata cag aac ccc ctg gca gcc agt ctc	529
Glu Asp Thr Pro Phe Leu Ala Ile Gln Asn Pro Leu Ala Ala Ser Leu	
165 170 175	
gag gcg gcc cct gcc ttc cgc ctg gtc gac agc agg act aac cca aca	577
Glu Ala Ala Pro Ala Phe Arg Leu Val Asp Ser Arg Thr Asn Pro Thr	
180 185 190	
ggc ggc ttc tct ccg cag gaa gaa ttg cag gcc agg ctc tcc ggt gta	625
Gly Gly Phe Ser Pro Gln Glu Glu Leu Gln Ala Arg Leu Ser Gly Val	

195	200	205	
atc gct aac caa gac cct atc gct gtc taaaaccgaa atacacccat Ile Ala Asn Gln Asp Pro Ile Ala Val 210	215	205	672
agattcacct gtaaaacttt attttatata ataaagtatt ccaccttaaa ttaaacaa			730
<p><210> 148 <211> 1652 <212> DNA <213> Bos taurus</p> <p><220> <221> CDS <222> (459)...(1181)</p> <p><400> 148</p>			
agtttcccccc cccaacttgt cggaaactctg ggctcgcgcg cagggcagga gcggagcg ggcggctgcc cagggatgc gagcgcgggc cggacgtaa tcgcctctcc ctctcgggc tgcgagcgcg ccggaccgag gcagcgcacag gagcggaccg cggcggaaac cgaggactcc ccagcggcgcc gccagcagga gccaccccgcc gagcgtgcga ccgggacgga gcggccgcca gtcccgaggc gcccggaccg cacgttgcgt ccccgcgctc cccgcccggcg acaggagacg ctccccccca cggccgcgc gcctcgcccc ggtcgctggc ccgcctccac tccggggaca aactttccc gaagccgatc ccagccctcg gacccaaact tgtcgcgt cgccctcgcc gggagccgtc cgccagagc gtgcacttct cggcgag atg tcg gag cgc aga gaa		60 120 180 240 300 360 420 476	
	Met Ser Glu Arg Arg Glu 1 5		
ggc aaa ggc aag ggg aag ggc ggc aag aag gac cga ggc tcc ggg aag Gly Lys Gly Lys Gly Lys Gly Lys Lys Asp Arg Gly Ser Gly Lys 10 15 20			524
aag ccc gtg ccc gcg gct ggc ggc ccg agc cca gcc ttg cct ccc cgc Lys Pro Val Pro Ala Ala Gly Gly Pro Ser Pro Ala Leu Pro Pro Arg 25 30 35			572
ttg aaa gag atg aag atg cag gag tct gtg gca ggt tcc aaa cta gtg Leu Lys Glu Met Lys Met Gln Glu Ser Val Ala Gly Ser Lys Leu Val 40 45 50			620
ctt cgg tgc gag acc agt tct gaa tac tcc tct ctc aag ttc aag tgg Leu Arg Cys Glu Thr Ser Ser Glu Tyr Ser Ser Leu Lys Phe Lys Trp 55 60 65 70			668
ttc aag aat ggg agt gaa tta agc cga aag aac aaa cca caa aac atc Phe Lys Asn Gly Ser Glu Leu Ser Arg Lys Asn Lys Pro Gln Asn Ile 75 80 85			716
aag ata cag aaa agg ccg ggg aag tca gaa ctt cgc att agc aaa gcg Lys Ile Gln Lys Arg Pro Gly Lys Ser Glu Leu Arg Ile Ser Lys Ala			764

90	95	100	
tca ctg gct gat tct gga gaa tat atg tgc aaa gtg atc agc aaa cta Ser Leu Ala Asp Ser Gly Glu Tyr Met Cys Lys Val Ile Ser Lys Leu	105	110	812
115			
gga aat gac agt gcc tct gcc aac atc acc att gtg gag tca aac gag Gly Asn Asp Ser Ala Ser Ala Asn Ile Thr Ile Val Glu Ser Asn Glu	120	125	860
130			
atc acc act ggc atg cca gcc tca act gag aca gcg tat gtg tct tca Ile Thr Thr Gly Met Pro Ala Ser Thr Glu Thr Ala Tyr Val Ser Ser	135	140	908
145			
150			
gag tct ccc att aga ata tca gta tca aca gaa gga aca aat act tct Glu Ser Pro Ile Arg Ile Ser Val Ser Thr Glu Gly Thr Asn Thr Ser	155	160	956
165			
tca tcc aca tcc aca tct aca gct ggg aca agc cat ctt gtc aag tgt Ser Ser Thr Ser Thr Ala Gly Thr Ser His Leu Val Lys Cys	170	175	1004
180			
gca gag aag gag aaa act ttc tgt gtg aat gga ggc gag tgc ttc atg Ala Glu Lys Glu Lys Thr Phe Cys Val Asn Gly Gly Glu Cys Phe Met	185	190	1052
195			
gtg aaa gac ctt tca aat ccc tca aga tac ttg tgc aag tgc cca aat Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr Leu Cys Lys Cys Pro Asn	200	205	1100
210			
gag ttt act ggt gat cgc tgc caa aac tac gta atg gcc agc ttc tac Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Met Ala Ser Phe Tyr	215	220	1148
225			
230			
agt acg tcc act ccc ttt ctg tct ctg cct gaa taggcgcatttgcgttgcgtt Ser Thr Ser Thr Pro Phe Leu Ser Leu Pro Glu	235	240	1201
gccgctttct tggccgca tctccctca gattcaacct agagctagat gcgttttacc aggctcaaca ttgactgcct ctgcctgtcg catgagaaca ttaacacaag cgattgtatg			1261
acttcctctg tccgtacta gtgggctctg agctactcg aggtgcgtaa ggctccagtg			1321
tttctgaaat tgatcttcaa ttactgtat acgacatgtat agtccctctc acccagtgc			1381
atgacaataa aggcttcaa aagtctcaact tttattgaga aaataaaaaat cgttccacgg			1441
gacagtcctt cttcttata aatgaccctt atccttggaa aggagggtgtt ttaagttgtt			1501
accagtacac acttgaaatg atggtaagtt cgcttcgggtt cagaatgtgt tctttctgac			1561
aaataaaacag aataaaaaaaa aaaaaaaaaa a			1621
			1652
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<211> 1140			
<212> DNA			
<213> Bos taurus			

<220>

<221> CDS

<222> (1)...(840)

<223> Xaa in position 2 is unknown.

<400> 149

cat can gtg tgg gcg gcg aaa gcc ggg ggc ttg aag aag gac tcg ctg	48
His Xaa Val Trp Ala Ala Lys Ala Gly Gly Leu Lys Lys Asp Ser Leu	
1 5 10 15	
ctc acc gtg cgc ctg ggc gcc tgg ggc cac ccc gcc ttc ccc tcc tgc	96
Leu Thr Val Arg Leu Gly Ala Trp Gly His Pro Ala Phe Pro Ser Cys	
20 25 30	
ggg cgc ctc aag gag gac agc agg tac atc ttc ttc atg gag ccc gag	144
Gly Arg Leu Lys Glu Asp Ser Arg Tyr Ile Phe Phe Met Glu Pro Glu	
35 40 45	
gcc aac agc agc ggc ggg ccc ggc cgc ctt ccg agc ctc ctt ccc ccc	192
Ala Asn Ser Ser Gly Gly Pro Gly Arg Leu Pro Ser Leu Leu Pro Pro	
50 55 60	
tct cga gac ggg ccg gaa cct caa gaa gga ggt cag ccg ggt gct gtg	240
Ser Arg Asp Gly Pro Glu Pro Gln Glu Gly Gln Pro Gly Ala Val	
65 70 75 80	
caa cgg tgc gcc ttg cct ccc cgc ttg aaa gag atg aag agt cag gag	288
Gln Arg Cys Ala Leu Pro Pro Arg Leu Lys Glu Met Lys Ser Gln Glu	
85 90 95	
tct gtg gca ggt tcc aaa cta gtg ctt ccg tgc gag acc agt tct gaa	336
Ser Val Ala Gly Ser Lys Leu Val Leu Arg Cys Glu Thr Ser Ser Glu	
100 105 110	
tac tcc tct ctc aag ttc aag tgg ttc aag aat ggg agt gaa tta agc	384
Tyr Ser Ser Leu Lys Phe Lys Trp Phe Lys Asn Gly Ser Glu Leu Ser	
115 120 125	
cga aag aac aaa cca gaa aac atc aag ata cag aaa agg ccg ggg aag	432
Arg Lys Asn Lys Pro Glu Asn Ile Lys Ile Gln Lys Arg Pro Gly Lys	
130 135 140	
tca gaa ctt cgc att agc aaa gcg tca ctg gct gat tct gga gaa tat	480
Ser Glu Leu Arg Ile Ser Lys Ala Ser Leu Ala Asp Ser Gly Glu Tyr	
145 150 155 160	
atg tgc aaa gtg atc agc aaa cta gga aat gac agt gcc tct gcc aac	528
Met Cys Lys Val Ile Ser Lys Leu Gly Asn Asp Ser Ala Ser Ala Asn	
165 170 175	

atc acc att gtg gag tca aac gcc aca tcc aca tct aca gct ggg aca Ile Thr Ile Val Glu Ser Asn Ala Thr Ser Thr Ser Thr Ala Gly Thr 180	185	190	576
agc cat ctt gtc aag tgt gca gag aag gag aaa act ttc tgt gtg aat Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn 195	200	205	624
gga ggc gag tgc ttc atg gtg aaa gac ctt tca aat ccc tca aga tac Gly Gly Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr 210	215	220	672
ttg tgc aag tgc caa cct gga ttc act gga gcg aga tgt act gag aat Leu Cys Lys Cys Gln Pro Gly Phe Thr Gly Ala Arg Cys Thr Glu Asn 225	230	235	720
gtg ccc atg aaa gtc caa acc caa gaa aag tgc cca aat gag ttt act Val Pro Met Lys Val Gln Thr Gln Glu Lys Cys Pro Asn Glu Phe Thr 245	250	255	768
ggt gat cgc tgc caa aac tac gta atg gcc agc ttc tac agt acg tcc Gly Asp Arg Cys Gln Asn Tyr Val Met Ala Ser Phe Tyr Ser Thr Ser 260	265	270	816
act ccc ttt ctg tct ctg cct gaa tagcgcatct cagtcggtgc cgctttcttg Thr Pro Phe Leu Ser Leu Pro Glu 275	280		870
ttgccgcatac tcccctcaga ttccncctag agctagatgc gttttaccag gtctaacatt gactgcctct gcctgtcgca tgagaacatt aacacaagcg attgtatgac ttccctctgtc cgtgactagt gggctctgag ctactcgtag gtgcgttaagg ctccagtgtt tctgaaattg atcttgaatt actgtgatac gacatgatag tccctctcac ccagtgcaat gacaataaaag gccttgaaaa gtcaaaaaaaa aaaaaaaaaa			930
			990
			1050
			1110
			1140
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g aag tca gaa ctt cgc att agc aaa gcg tca ctg gct gat tct gga gaa Lys Ser Glu Leu Arg Ile Ser Lys Ala Ser Leu Ala Asp Ser Gly Glu 1	5	10	15
97			
tat atg tgc aaa gtg atc agc aaa cta gga aat gac agt gcc tct gcc Tyr Met Cys Lys Val Ile Ser Lys Leu Gly Asn Asp Ser Ala Ser Ala 20	25	30	

aac atc acc att gtg gag tca aac gcc aca tcc aca tct aca gct ggg 145
 Asn Ile Thr Ile Val Glu Ser Asn Ala Thr Ser Thr Ser Ala Gly
 35 40 45

 aca agc cat ctt gtc aag tgt gca gag aag gag aaa act ttc tgt gtg 193
 Thr Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val
 50 55 60

 aat gga ggc gac tgc ttc atg gtg aaa gac ctt tca aat ccc tca aga 241
 Asn Gly Gly Asp Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg
 65 70 75 80

 tac ttg tgc aag tgc caa cct gga ttc act gga gcg aga tgt act gag 289
 Tyr Leu Cys Lys Cys Gln Pro Gly Phe Thr Gly Ala Arg Cys Thr Glu
 85 90 95

 aat gtg ccc atg aaa gtc caa acc caa gaa aaa gcg gag gag ctc tac 337
 Asn Val Pro Met Lys Val Gln Thr Gln Glu Lys Ala Glu Glu Leu Tyr
 100 105 110

 cag aag aga gtg ctc acc att acc ggc att tgc atc gcg ctg ctc gtg 385
 Gln Lys Arg Val Leu Thr Ile Thr Gly Ile Cys Ile Ala Leu Leu Val
 115 120 125

 gtt ggc atc atg tgt gtg gtc tac tgc aaa acc aag aaa caa cgg 433
 Val Gly Ile Met Cys Val Val Val Tyr Cys Lys Thr Lys Lys Gln Arg
 130 135 140

 aaa aag ctt cat gac cgg ctt cgg cag agc ctt cgg tct gaa aga aac 481
 Lys Lys Leu His Asp Arg Leu Arg Gln Ser Leu Arg Ser Glu Arg Asn
 145 150 155 160

 acc atg atg aac gta gcc aac ggg ccc cac cac ccc aat ccg ccc ccc 529
 Thr Met Met Asn Val Ala Asn Gly Pro His His Pro Asn Pro Pro Pro
 165 170 175

 gag aac gtg cag ctg gtg aat caa tac gta tct aaa aat gtc atc tct 577
 Glu Asn Val Gln Leu Val Asn Gln Tyr Val Ser Lys Asn Val Ile Ser
 180 185 190

 agc gag cat att gtt gag aga gag gcg gag agc tct ttt tcc acc agt 625
 Ser Glu His Ile Val Glu Arg Glu Ala Glu Ser Ser Phe Ser Thr Ser
 195 200 205

 cac tac act tcg aca gct cat cat tcc act act gtc act cag act ccc 673
 His Tyr Thr Ser Thr Ala His His Ser Thr Thr Val Thr Gln Thr Pro
 210 215 220

 agt cac agc tgg agc aat gga cac act gaa agc atc att tcg gaa agc 721
 Ser His Ser Trp Ser Asn Gly His Thr Glu Ser Ile Ile Ser Glu Ser

225	230	235	240	
cac tct gtc atc gtg atg tca tcc gta gaa aac agt agg cac agc agc				769
His Ser Val Ile Val Met Ser Ser Val Glu Asn Ser Arg His Ser Ser				
245	250	255		
ccg act ggg ggc ccg aga gga cgt ctc aat ggc ttg gga ggc cct cgt				817
Pro Thr Gly Gly Pro Arg Gly Arg Leu Asn Gly Leu Gly Gly Pro Arg				
260	265	270		
gaa tgt aac agc ttc ctc agg cat gcc aga gaa acc cct gac tcc tac				865
Glu Cys Asn Ser Phe Leu Arg His Ala Arg Glu Thr Pro Asp Ser Tyr				
275	280	285		
cga gac tct cct cat agt gaa aga cat aac ctt ata gct gag cta agg				913
Arg Asp Ser Pro His Ser Glu Arg His Asn Leu Ile Ala Glu Leu Arg				
290	295	300		
aga aac aag gcc cac aga tcc aaa tgc atg cag atc cag ctt tcc gca				961
Arg Asn Lys Ala His Arg Ser Lys Cys Met Gln Ile Gln Leu Ser Ala				
305	310	315	320	
act cat ctt aga gct tct tcc att ccc cat tgg gct tca ttc tct aag				1009
Thr His Leu Arg Ala Ser Ser Ile Pro His Trp Ala Ser Phe Ser Lys				
325	330	335		
acc cct tgg cct tta gga agg tat gta tca gca atg acc acc ccg gct				1057
Thr Pro Trp Pro Leu Gly Arg Tyr Val Ser Ala Met Thr Thr Pro Ala				
340	345	350		
cgt atg tca cct gta gat ttc cac acg cca agc tcc ccc aag tca ccc				1105
Arg Met Ser Pro Val Asp Phe His Thr Pro Ser Ser Pro Lys Ser Pro				
355	360	365		
cct tcg gaa atg tcc ccg ccc gtg tcc agc acg acg gtc tcc atg ccc				1153
Pro Ser Glu Met Ser Pro Pro Val Ser Ser Thr Thr Val Ser Met Pro				
370	375	380		
tcc atg gcg gtc agt ccc ttc gtg gaa gag gag aga ccc ctg ctc ctt				1201
Ser Met Ala Val Ser Pro Phe Val Glu Glu Arg Pro Leu Leu Leu				
385	390	395	400	
gtg acg cca cca cgg ctg cgg gag aag tat gac cac cac gcc cag caa				1249
Val Thr Pro Pro Arg Leu Arg Glu Lys Tyr Asp His His Ala Gln Gln				
405	410	415		
ttc aac tcg ttc cac tgc aac ccc gcg cat gag agc aac agc ctg ccc				1297
Phe Asn Ser Phe His Cys Asn Pro Ala His Glu Ser Asn Ser Leu Pro				
420	425	430		
ccc agc ccc ttg agg ata gtg gag gat gag gaa tat gaa acg acc cag				1345

Pro Ser Pro Leu Arg Ile Val Glu Asp Glu Glu Tyr Glu Thr Thr Gln			
435	440	445	
gag tac gaa cca gct caa gag ccg gtt aag aaa ctc acc aac agc agc			1393
Glu Tyr Glu Pro Ala Gln Glu Pro Val Lys Lys Leu Thr Asn Ser Ser			
450	455	460	
cgg cgg gcc aaa aga acc aag ccc aat ggt cac att gcc cac agg ttg			1441
Arg Arg Ala Lys Arg Thr Lys Pro Asn Gly His Ile Ala His Arg Leu			
465	470	475	480
gaa atg gac aac aac aca ggc gct gac agc agt aac tca gag agc gaa			1489
Glu Met Asp Asn Asn Thr Gly Ala Asp Ser Ser Asn Ser Glu Ser Glu			
485	490	495	
aca gag gat gaa aga gta gga gaa gat acg cct ttc ctg gcc ata cag			1537
Thr Glu Asp Glu Arg Val Gly Glu Asp Thr Pro Phe Leu Ala Ile Gln			
500	505	510	
aac ccc ctg gca gcc agt ctc gag gcg gcc cct gcc ttc cgc ctg gtc			1585
Asn Pro Leu Ala Ala Ser Leu Glu Ala Ala Pro Ala Phe Arg Leu Val			
515	520	525	
gac agc agg act aac cca aca ggc ggc ttc tct ccg cag gaa gaa ttg			1633
Asp Ser Arg Thr Asn Pro Thr Gly Gly Phe Ser Pro Gln Glu Glu Leu			
530	535	540	
cag gcc agg ctc tcc ggt gta atc gct aac caa gac cct atc gct gtc			1681
Gln Ala Arg Leu Ser Gly Val Ile Ala Asn Gln Asp Pro Ile Ala Val			
545	550	555	560
taaaaaccgaa atacacccat agattcacct gtaaaaacttt attttatata ataaagtatt			1741
ccaccttaaa ttaaacaaaa aaa			1764
<210> 151			
<211> 50			
<212> PRT			
<213> Bos taurus			
<400> 151			
Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn Gly Gly Glu Cys			
1	5	10	15
Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr Leu Cys Lys Cys			
20	25	30	
Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Met Ala Ser			
35	40	45	
Phe Tyr			
50			
<210> 152			
<211> 50			

<212> PRT

<213> Bos taurus

<400> 152

Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn Gly Gly Glu Cys
1 5 10 15
Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr Leu Cys Lys Cys
20 25 30
Gln Pro Gly Phe Thr Gly Ala Arg Cys Thr Glu Asn Val Pro Met Lys
35 40 45
Val Gln
50

<210> 153

<211> 46

<212> PRT

<213> Homo sapiens

<400> 153

Glu Cys Leu Arg Lys Tyr Lys Asp Phe Cys Ile His Gly Glu Cys Lys
1 5 10 15
Tyr Val Lys Glu Leu Arg Ala Pro Ser Cys Lys Cys Gln Gln Glu Tyr
20 25 30
Phe Gly Glu Arg Cys Gly Glu Lys Ser Asn Lys Thr His Ser
35 40 45

<210> 154

<211> 198

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(198)

<400> 154

agc cat ctt gtc aag tgt gca gag aag gag aaa act ttc tgt gtg aat 48
Ser His Leu Val Lys Cys Ala Glu Lys Thr Phe Cys Val Asn
1 5 10 15

gga ggc gag tgc ttc atg gtg aaa gac ctt tca aat ccc tca aga tac 96
Gly Gly Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
20 25 30

ttg tgc aag tgc cca aat gag ttt act ggt gat cgc tgc caa aac tac 144
Leu Cys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
35 40 45

gta atg gcc agc ttc tac agt acg tcc act ccc ttt ctg tct ctg cct 192
Val Met Ala Ser Phe Tyr Ser Thr Ser Thr Pro Phe Leu Ser Leu Pro
50 55 60

gaa tag	198
Glu *	
65	
<210> 155	
<211> 192	
<212> DNA	
<213> Bos taurus	
<220>	
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<222> (1)...(189)	
<400> 155	
agc cat ctt gtc aag tgt gca gag aag gag aaa act ttc tgt gtg aat	48
Ser His Leu Val Lys Cys Ala Glu Lys Thr Phe Cys Val Asn	
1 5 10 15	
gga ggc gag tgc ttc atg gtg aaa gac ctt tca aat ccc tca aga tac	96
Gly Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr	
20 25 30	
ttg tgc aag tgc caa cct gga ttc act gga gcg aga tgt act gag aat	144
Leu Cys Lys Cys Gln Pro Gly Phe Thr Gly Ala Arg Cys Thr Glu Asn	
35 40 45	
gtg ccc atg aaa gtc caa acc caa gaa aaa gcg gag gag ctc tac	189
Val Pro Met Lys Val Gln Thr Gln Glu Lys Ala Glu Glu Leu Tyr	
50 55 60	
taa	192
<210> 156	
<211> 183	
<212> DNA	
<213> Homo sapiens	
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<400> 156	
agc cat ctt gtc aag tgt gca gag aag gag aaa act ttc tgt gtg aat	48
Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn	
1 5 10 15	
gga ggc gag tgc ttc atg gtg aaa gac ctt tca aat ccc tca aga tac	96
Gly Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr	
20 25 30	

ttg tgc aag tgc cca aat gag ttt act ggt gat cgc tgc caa aac tac	35	40	45	144
Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr				
gta atg gcc agc ttc tac aaa gcg gag gag ctc tac taa	50	55	60	183
Val Met Ala Ser Phe Tyr Lys Ala Glu Glu Leu Tyr				
<210> 157				
<211> 210				
<212> DNA				
<213> Homo sapiens				
<220>				
<221> CDS				
<222> (1)...(207)				
<400> 157				
agc cat ctt gtc aag tgt gca gag aag gag aaa act ttc tgt gtg aat	1	5	10	48
Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn				
gga ggc gag tgc ttc atg gtg aaa gac ctt tca aat ccc tca aga tac	20	25	30	96
Gly Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr				
ttg tgc aag tgc cca aat gag ttt act ggt gat cgc tgc caa aac tac	35	40	45	144
Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr				
gta atg gcc agc ttc tac aag cat ctt ggg att gaa ttt atg gag aaa	50	55	60	192
Val Met Ala Ser Phe Tyr Lys His Leu Gly Ile Glu Phe Met Glu Lys				
gcg gag gag ctc tac taa	65			210
Ala Glu Glu Leu Tyr				
<210> 158				
<211> 267				
<212> DNA				
<213> Bos taurus				
<220>				
<221> CDS				
<222> (1)...(264)				
<400> 158				

agc cat ctt gtc aag tgt gca gag aag gag aaa act ttc tgt gtg aat	48
Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn	
1 5 10 15	
gga ggc gag tgc ttc atg gtg aaa gac ctt tca aat ccc tca aga tac	96
Gly Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr	
20 25 30	
ttg tgc aag tgc caa cct gga ttc act gga gcg aga tgt act gag aat	144
Leu Cys Lys Cys Gln Pro Gly Phe Thr Gly Ala Arg Cys Thr Glu Asn	
35 40 45	
gtg ccc atg aaa gtc caa acc caa gaa aag tgc cca aat gag ttt act	192
Val Pro Met Lys Val Gln Thr Gln Glu Lys Cys Pro Asn Glu Phe Thr	
50 55 60	
ggt gat cgc tgc caa aac tac gta atg gcc agc ttc tac agt acg tcc	240
Gly Asp Arg Cys Gln Asn Tyr Val Met Ala Ser Phe Tyr Ser Thr Ser	
65 70 75 80	
act ccc ttt ctg tct ctg cct gaa tag	267
Thr Pro Phe Leu Ser Leu Pro Glu	
85	
<210> 159	
<211> 252	
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<220>	
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<222> (1) ... (249)	
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agc cat ctt gtc aag tgt gca gag aag gag aaa act ttc tgt gtg aat	48
Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn	
1 5 10 15	
gga ggc gag tgc ttc atg gtg aaa gac ctt tca aat ccc tca aga tac	96
Gly Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr	
20 25 30	
ttg tgc aag tgc caa cct gga ttc act gga gcg aga tgt act gag aat	144
Leu Cys Lys Cys Gln Pro Gly Phe Thr Gly Ala Arg Cys Thr Glu Asn	
35 40 45	
gtg ccc atg aaa gtc caa acc caa gaa aag tgc cca aat gag ttt act	192
Val Pro Met Lys Val Gln Thr Gln Glu Lys Cys Pro Asn Glu Phe Thr	
50 55 60	

ggt gat cgc tgc caa aac tac gta atg gcc agc ttc tac aaa gcg gag	240
Gly Asp Arg Cys Gln Asn Tyr Val Met Ala Ser Phe Tyr Lys Ala Glu	
65 70 75 80	
gag ctc tac taa	252
Glu Leu Tyr	
<210> 160	
<211> 128	
<212> DNA	
<213> Bos taurus	
<220>	
<221> CDS	
<222> (3)...(125)	
<400> 160	
cc aca tcc aca tct aca gct ggg aca agc cat ctt gtc aag tgt gca	47
Thr Ser Thr Ser Thr Ala Gly Thr Ser His Leu Val Lys Cys Ala	
1 5 10 15	
gag aag gag aaa act ttc tgt gtg aat gga ggc gag tgc ttc atg gtg	95
Glu Lys Glu Lys Thr Phe Cys Val Asn Gly Gly Glu Cys Phe Met Val	
20 25 30	
aaa gac ctt tca aat ccc tca aga tac ttg tgc	128
Lys Asp Leu Ser Asn Pro Ser Arg Tyr Leu	
35 40	
<210> 161	
<211> 141	
<212> DNA	
<213> Bos taurus	
<220>	
<221> CDS	
<222> (2)...(142)	
<221> variation	
<222> (142)...(142)	
<223> N in position 142 varies.	
<221> variation	
<222> (47)...(47)	
<223> Xaa in position 47 is Arg.	
<400> 161	
a cat aac ctt ata gct gag cta agg aga aac aag gcc cac aga tcc aaa	49

His Asn Leu Ile Ala Glu Leu Arg Arg Asn Lys Ala His Arg Ser Lys
1 5 10 15

tgc atg cag atc cag ctt tcc gca act cat ctt aga gct tct tcc att 97
Cys Met Gln Ile Gln Leu Ser Ala Thr His Leu Arg Ala Ser Ser Ile
20 25 30

ccc cat tgg gct tca ttc tct aag acc cct tgg cct tta gga agn 142
Pro His Trp Ala Ser Phe Ser Lys Thr Pro Trp Pro Leu Gly Xaa
35 40 45

<210> 162
<211> 24
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> (15)...(22)
<223> Xaa in 15 and 22 is unknown.

<400> 162
Ala Ala Glu Lys Glu Lys Thr Phe Cys Val Asn Gly Gly Glu Xaa Phe
1 5 10 15
Met Val Lys Asp Leu Xaa Asn Pro
20

<210> 163
<211> 745
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)...(744)

<400> 163
atg aga tgg cga cgc gcc ccg cgc cgc tcc ggg cgt ccc ggc ccc cgg 48
Met Arg Trp Arg Arg Ala Pro Arg Arg Ser Gly Arg Pro Gly Pro Arg
1 5 10 15

gcc cag cgc ccc ggc tcc gcc gcc tcg tcg ccg ccg ctg ccg ctg 96
Ala Gln Arg Pro Gly Ser Ala Ala Arg Ser Ser Pro Pro Leu Pro Leu
20 25 30

ctg cca cta ctg ctg ctg ggg acc gcg gcc ctg gcg ccg ggg gcg 144
Leu Pro Leu Leu Leu Leu Gly Thr Ala Ala Leu Ala Pro Gly Ala
35 40 45

gcg gcc ggc aac gag gcg gct ccc gcg ggg gcc tcg gtg tgc tac tcg 192

Ala Ala Gly Asn Glu Ala Ala Pro Ala Gly Ala Ser Val Cys Tyr Ser			
50	55	60	
tcc ccg ccc agc gtg gga tcg gtg cag gag cta gct cag cgc gcc gcg			240
Ser Pro Pro Ser Val Gly Ser Val Gln Glu Leu Ala Gln Arg Ala Ala			
65	70	75	80
gtg gtg atc gag gga aag gtg cac ccg cag cgg cag cag ggg gca			288
Val Val Ile Glu Gly Lys Val His Pro Gln Arg Arg Gln Gln Gly Ala			
85	90	95	
ctc gac agg aag gcg gcg gcg gcg ggc gag gca ggg gcg tgg ggc			336
Leu Asp Arg Lys Ala Ala Ala Ala Gly Glu Ala Gly Ala Trp Gly			
100	105	110	
ggc gat cgc gag ccg cca gcc gcg ggc cca cgg gcg ctg ggg ccc ccc			384
Gly Asp Arg Glu Pro Pro Ala Ala Gly Pro Arg Ala Leu Gly Pro Pro			
115	120	125	
gcc gag gag ccg ctg ctc gcc gcc aac ggg acc gtg ccc tct tgg ccc			432
Ala Glu Glu Pro Leu Leu Ala Ala Asn Gly Thr Val Pro Ser Trp Pro			
130	135	140	
acc gcc ccg gtg ccc agc gcc ggc gag ccc ggg gag gag gcg ccc tat			480
Thr Ala Pro Val Pro Ser Ala Gly Glu Pro Gly Glu Ala Pro Tyr			
145	150	155	160
ctg gtg aag gtg cac cag gtg tgg gcg gtg aaa gcc ggg ggc ttg aag			528
Leu Val Lys Val His Gln Val Trp Ala Val Lys Ala Gly Gly Leu Lys			
165	170	175	
aag gac tcg ctg ctc acc gtg cgc ctg ggg acc tgg ggc cac ccc gcc			576
Lys Asp Ser Leu Leu Thr Val Arg Leu Gly Thr Trp Gly His Pro Ala			
180	185	190	
ttc ccc tcc tgc ggg agg ctc aag gag gac agc agg tac atc ttc ttc			624
Phe Pro Ser Cys Gly Arg Leu Lys Glu Asp Ser Arg Tyr Ile Phe Phe			
195	200	205	
atg gag ccc gac gcc aac agc acc agc cgc gcg ccg gcc gcc ttc cga			672
Met Glu Pro Asp Ala Asn Ser Thr Ser Arg Ala Pro Ala Ala Phe Arg			
210	215	220	
gcc tct ttc ccc cct ctg gag acg ggc cgg aac ctc aag aag gag gtc			720
Ala Ser Phe Pro Pro Leu Glu Thr Gly Arg Asn Leu Lys Lys Glu Val			
225	230	235	240
agc cgg gtg ctg tgc aag cgg tgc g			745
Ser Arg Val Leu Cys Lys Arg Cys			
245			

<210> 164
<211> 12
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> (1)...(1)
<223> Xaa in 1 is unknown.

<400> 164
Xaa Ala Leu Ala Ala Ala Gly Tyr Asp Val Glu Lys
1 5 10

<210> 165
<211> 5
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> (1)...(1)
<223> Xaa in 1 is unknown.

<400> 165
Xaa Leu Val Leu Arg
1 5

<210> 166
<211> 11
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> (1)...(3)
<223> Xaa in 1, 2, and 3 is unknown.

<400> 166
Xaa Xaa Xaa Tyr Pro Gly Gln Ile Thr Ser Asn
1 5 10

<210> 167
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
<223> Probe/primer derived from Rattus rattus

<221> unsure

<222> (25) ... (31)
 <223> N in 25 and 31 is unknown.

<400> 167
 atagggaaagg gcgggggaaag ggtcncctc ngcagggccg ggcttgcctc tggagccctct 60

<210> 168
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Probe/primer derived from *Rattus rattus*

<221> unsure
 <222> (16) ... (16)
 <223> N in 16 is unknown.

<400> 168
 tttacacata tattcncc 18

<210> 169
 <211> 21
 <212> PRT
 <213> *Bos taurus*

<400> 169
 Glu Thr Gln Pro Asp Pro Gly Gln Ile Leu Lys Lys Val Pro Met Val
 1 5 10 15

Ile Gly Ala Tyr Thr
 20

<210> 170
 <211> 422
 <212> PRT
 <213> *Homo sapiens*

<400> 170
 Met Arg Trp Arg Arg Ala Pro Arg Arg Ser Gly Arg Pro Gly Pro Arg
 1 5 10 15

Ala Gln Arg Pro Gly Ser Ala Ala Arg Ser Ser Pro Pro Leu Pro Leu
 20 25 30

Leu Pro Leu Leu Leu Leu Gly Thr Ala Ala Leu Ala Pro Gly Ala
 35 40 45

Ala Ala Gly Asn Glu Ala Ala Pro Ala Gly Ala Ser Val Cys Tyr Ser
 50 55 60

Ser Pro Pro Ser Val Gly Ser Val Gln Glu Leu Ala Gln Arg Ala Ala
 65 70 75 80

Val Val Ile Glu Gly Lys Val His Pro Gln Arg Arg Gln Gln Gly Ala
 85 90 95

Leu Asp Arg Lys Ala Ala Ala Gly Glu Ala Gly Ala Trp Gly

100	105	110	
Gly Asp Arg Glu Pro Pro Ala Ala	Gly Pro Arg Ala	Leu Gly Pro Pro	
115	120	125	
Ala Glu Glu Pro Leu Leu Ala Ala	Asn Gly Thr Val	Pro Ser Trp Pro	
130	135	140	
Thr Ala Pro Val Pro Ser Ala	Gly Glu Pro Gly	Glu Ala Pro Tyr	
145	150	155	160
Leu Val Lys Val His Gln Val Trp Ala	Val Lys Ala Gly	Gly Leu Lys	
165	170	175	
Lys Asp Ser Leu Leu Thr Val Arg	Leu Gly Thr Trp Gly	His Pro Ala	
180	185	190	
Phe Pro Ser Cys Gly Arg Leu Lys	Glu Asp Ser Arg	Tyr Ile Phe Phe	
195	200	205	
Met Glu Pro Asp Ala Asn Ser	Thr Ser Arg Ala	Pro Ala Ala Phe Arg	
210	215	220	
Ala Ser Phe Pro Pro Leu Glu Thr Gly Arg	Asn Leu Lys Lys	Glu Val	
225	230	235	240
Ser Arg Val Leu Cys Lys Arg Cys Ala	Leu Pro Pro Gln	Leu Lys Glu	
245	250	255	
Met Lys Ser Gln Glu Ser Ala Ala	Gly Ser Lys Leu Val	Leu Arg Cys	
260	265	270	
Glu Thr Ser Ser Glu Tyr Ser Ser	Leu Arg Phe Lys	Trp Phe Lys Asn	
275	280	285	
Gly Asn Glu Leu Asn Arg Lys Asn Lys	Pro Gln Asn Ile	Lys Ile Gln	
290	295	300	
Lys Lys Pro Gly Lys Ser Glu Leu Arg	Ile Asn Lys Ala	Ser Leu Ala	
305	310	315	320
Asp Ser Gly Glu Tyr Met Cys Lys Val	Ile Ser Lys Leu	Gly Asn Asp	
325	330	335	
Ser Ala Ser Ala Asn Ile Thr	Ile Val Glu Ser Asn	Ala Thr Ser Thr	
340	345	350	
Ser Thr Thr Gly Thr Ser His	Leu Val Lys Cys	Ala Glu Lys Glu Lys	
355	360	365	
Thr Phe Cys Val Asn Gly Gly	Glu Cys Phe Met	Val Lys Asp Leu Ser	
370	375	380	
Asn Pro Ser Arg Tyr Leu Cys Lys	Cys Pro Asn Glu	Phe Thr Gly Asp	
385	390	395	400
Arg Cys Gln Asn Tyr Val Met Ala	Ser Phe Tyr Ser	Thr Ser Thr Pro	
405	410	415	
Phe Leu Ser Leu Pro Glu			
420			

<210> 171
 <211> 69
 <212> PRT
 <213> Homo sapiens

<400> 171
 Met Ser Glu Arg Lys Glu Gly Arg Gly Lys Gly Lys Gly Lys Lys
 1 5 10 15
 Glu Arg Gly Ser Gly Lys Lys Pro Glu Ser Ala Ala Gly Ser Gln Ser

20	25	30
Pro Arg Glu Ile Ile Thr Gly Met	Pro Ala Ser Thr Glu Gly Ala Tyr	
35	40	45
Val Ser Ser Glu Ser Pro Ile Arg	Ile Ser Val Ser Thr Glu Gly Ala	
50	55	60
Asn Thr Ser Ser Ser		
65		

<210> 172
 <211> 19
 <212> PRT
 <213> Bos taurus

<400> 172			
Arg Lys Gly Asp Val Pro Gly Pro Arg Val Lys Ser Ser Arg Ser Thr			
1	5	10	15
Thr Thr Ala			

<210> 173
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 173	
cgcgagcggc tcagcgccgc cgctcgctct cccctcgag ggacaaactt ttcccaaac	60
cgatccgagc ccttggacca aactcgctg cgccgagagc cgtccgcgta gagcgctccg	120
tctccggcga gatgtccgag cgcaaagaag gcagaggcaa agggaaaggc aagaagaagg	180
agcgaggctc cggcaagaag ccggagtcgg cggcgccgag ccagagccca g	231

<210> 174
 <211> 178
 <212> DNA
 <213> Homo sapiens

<400> 174	
ccttgcctcc ccgattgaaa gagataaaaa gccaggaatc ggctgcaggt tccaaactag	60
tccttcggtg taaaaaccagt tctgaatact cctctctcag attcaagtgg ttcaagaatg	120
ggaatgaatt gaatcgaaaa aacaaaccac aaaatatcaa gatacaaaaa aagccagg	178

<210> 175
 <211> 122
 <212> DNA
 <213> Homo sapiens

<400> 175	
gaagtgcagaa ctgcattt acaaaggatc actggctgat tctggagagt atatgtgcaa	60
agtgtatcgc aaatttaggaa atgcacgtgc ctctgcattt atcaccatcg tggaaatcaa	120
cg	122

<210> 176

<211> 102		
<212> DNA		
<213> Homo sapiens		
<400> 176		
agatcatcac tggtatgcca gcctcaactg aaggagcata tgtgtcttca gagtctccca	60	
ttagaatatac agtatccaca gaaggagcaa atacttcttc at	102	
<210> 177		
<211> 128		
<212> DNA		
<213> Homo sapiens		
<400> 177		
ctacatctac atccaccact gggacaagcc atcttgtaaa atgtgcggag aaggagaaaa	60	
ctttctgtgt gaatggaggg gagtgcttca tggtaaaaga cctttcaaac ccctcgagat	120	
acttgtgc	128	
<210> 178		
<211> 69		
<212> DNA		
<213> Homo sapiens		
<400> 178		
aagtgcac acctggattcac tggagcaaga tgtactgaga atgtgcacat gaaagtccaa	60	
aaccaagaa	69	
<210> 179		
<211> 23		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Probe derived from Bos taurus		
<400> 179		
tcgggctcca tgaagaagat gta	23	
<210> 180		
<211> 23		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Probe derived from Bos taurus		
<400> 180		
tccatgaaga agatgtacct gct	23	
<210> 181		
<211> 22		

<212> DNA
<213> Artificial Sequence

<220>
<223> Probe derived from Bos taurus

<400> 181
atgtacacctgc tgtcctcctt ga 22

<210> 182
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Probe derived from Bos taurus

<400> 182
ttgaagaagg actcgctgct ca 22

<210> 183
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Probe derived from Bos taurus

<400> 183
aaagccgggg gcttgaagaa 20

<210> 184
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Probe derived from Bos taurus

<400> 184
atgargtgtg ggcggcgaaa 20

<210> 185
<211> 15
<212> PRT
<213> Bos taurus

<400> 185
Glu Gly Lys Val His Pro Gln Arg Arg Gly Ala Leu Asp Arg Lys
1 5 10 15

<210> 186
<211> 17
<212> PRT
<213> Bos taurus

<400> 186
Pro Ser Cys Gly Arg Leu Lys Glu Asp Ser Arg Tyr Ile Phe Phe Met
1 5 10 15
Glu

<210> 187
<211> 16
<212> PRT
<213> Bos taurus

<400> 187
Glu Leu Asn Arg Lys Asn Lys Pro Gln Asn Ile Lys Ile Gln Lys Lys
1 5 10 15

<210> 188
<211> 62
<212> PRT
<213> Homo sapiens

<400> 188
Thr Ser Thr Ser Thr Thr Gly Thr Ser His Leu Val Lys Cys Ala Glu
1 5 10 15
Lys Glu Lys Thr Phe Cys Val Asn Gly Gly Glu Cys Phe Met Val Lys
20 25 30
Asp Leu Ser Asn Pro Ser Arg Tyr Leu Cys Lys Cys Pro Asn Glu Phe
35 40 45
Thr Gly Asp Arg Cys Gln Asn Tyr Val Met Ala Ser Phe Tyr
50 55 60

<210> 189
<211> 73
<212> PRT
<213> Homo sapiens

<400> 189
Thr Ser Thr Ser Thr Thr Gly Thr Ser His Leu Val Lys Cys Ala Glu
1 5 10 15
Lys Glu Lys Thr Phe Cys Val Asn Gly Gly Glu Cys Phe Met Val Lys
20 25 30
Asp Leu Ser Asn Pro Ser Arg Tyr Leu Cys Lys Cys Pro Asn Glu Phe
35 40 45
Thr Gly Asp Arg Cys Gln Asn Tyr Val Met Ala Ser Phe Tyr Ser Thr
50 55 60
Ser Thr Pro Phe Leu Ser Leu Pro Glu
65 70

<210> 190
<211> 50
<212> PRT
<213> Homo sapiens

<400> 190
Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn Gly Gly Glu Cys
1 5 10 15
Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr Leu Cys Lys Cys
20 25 30
Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Met Ala Ser
35 40 45
Phe Tyr
50

Part
<210> 191
<211> 150
<212> DNA
<213> Bos taurus

<400> 191
aagtgtgcag agaaggagaa aactttctgt gtgaatggag gcgactgctt catggtgaaa 60
gaccttcaa atccctcaag atacttgtc aagtgcac ac ctggattcac tggagcgaga 120
tgtactgaga atgtgcccatt gaaagtccaa 150

<210> 192
<211> 11
<212> PRT
<213> Bos taurus

<400> 192
Lys Ala Ser Leu Ala Asp Ser Gly Glu Tyr Met
1 5 10